

IN THE CLAIMS

Claim 20 (Currently Amended): A method for monitoring and/or controlling the status of a radially oriented plasma in ~~[[a]]~~ an optical emission plasma spectrometer, said spectrometer having an entrance slit, which comprises the steps of:

acquiring image data ~~[[of]]~~ associated with the plasma;

acquiring image data associated with the entrance slit; and at least one of:

a) displaying simultaneously, on a display device, each of an image of the plasma from the image data associated with the plasma and an image of the entrance slit from the image data associated with the entrance slit ~~on a display device; [[,]]~~ and

b) storing simultaneously, in a computer unit, each of the image data ~~in a computer unit along with measured data~~ associated with the plasma, the image data associated with the entrance slit, and measured data.

Claim 21 (Canceled).

Claim 22 (Currently Amended): The method according to claim 20, ~~wherein the spectrometer is a mass spectrometer~~ further comprising the steps of:

processing the image data associated with the plasma to obtain at least one of an intensity image, an intensity contour, a color contour, an intensity outline, and time based fluctuations of the image data associated with the plasma; and

comparing the measured data with a plasma optimal condition data set.

Claim 23 (Currently Amended): ~~The method according to claim [[20]] 22, wherein the image data are processed to obtain intensity images, intensity contour, color contour, intensity outline, time base fluctuation of above image data and compared with a plasma optimal condition data set~~ further comprising the step of positioning at least one of the display device and the computer unit remotely from the spectrometer.

Claim 24 (Currently Amended): ~~The method according to claim [[23]] 22, wherein the plasma spectrometer is an optical emission spectrometer~~ further comprising the steps of:

acquiring plasma sound data; and at least one of:

reproducing plasma sound from the plasma sound data on the display device; and

storing the plasma sound data in the computer unit.

Claim 25 (Currently Amended): ~~The method according to claim 23, wherein the spectrometer is a mass spectrometer~~ An optical emission plasma spectrometer comprising a video-camera fixed to an enclosure of a plasma generating device, wherein the video-camera is coupled to at least one of a display device and a computer unit, the plasma is radially oriented with respect to an optical axis of the plasma spectrometer, and the video-camera is axially positioned with respect to the optical axis of the spectrometer so that the video-camera is configured to simultaneously obtain image data of an entrance slit of the spectrometer and image data of the plasma.

Claim 26 (Canceled).

Claim 27 (Currently Amended): The ~~method~~ optical emission spectrometer according to claim 26, any one of claims 20, 23, 24 or 26, wherein the plasma is a radially oriented plasma further comprising a lamp positioned in the vicinity of the entrance slit, wherein the lamp is configured to illuminate the entrance slit.

Claim 28 (Currently Amended): The ~~method~~ optical emission spectrometer according to any one of claims 20 or 23, wherein the plasma is an axially oriented plasma claim 26, further comprising a microphone fixed to the enclosure of the plasma generating device, wherein the microphone is configured to obtain plasma sound data, and the microphone is coupled to at least one of the computer unit for storing the plasma sound data or processing the plasma sound data, or both.

Claims 29-43 (Canceled).